WHAT IS CLAIMED IS:

      1.   A system for automatically generating a graphical user interface (GUI) element at a client system according to a current configuration model, comprising:

      a first frame associated with a web page and generated at a server system for communication to a client system in connection with a configuration workflow, when generated the first frame comprising data reflecting the current configuration model, when generated the first frame further comprising a function operable when executed at the client system in response to a call to automatically:

      access the data stored in the first frame reflecting the current configuration model;

      according to the accessed data, determine a configuration choice for which an appropriate GUI element needs to be drawn for display to a user associated with the client system in connection with the configuration workflow; and

      make a callback requesting that an appropriate GUI element for the configuration choice be drawn; and

      a second frame associated with the web page and generated at the server system for communication to the client system in association with the first frame, when generated the second frame comprising one or more parameters specifying the GUI element that will be appropriate for the configuration choice depending on the current configuration model as reflected in the data stored in the first frame, when generated the second frame further comprising code operable when executed at the client system to automatically:

      call the function of the first frame to determine a configuration choice for which an appropriate GUI element needs to be displayed to the user associated with the client system in connection with the configuration workflow;

      receive a callback from the function of the first frame requesting that an appropriate GUI element for the configuration choice be drawn; and

      according to the one or more parameters stored in the second frame, draw the GUI element that is appropriate for the configuration choice.

      2.   The system of Claim 1, wherein the GUI element appropriate for the configuration choice is generated on the fly at the client system.

3. The system of Claim 1, wherein the first frame is operable to reflect a change to the configuration model independent of manual modification of the first frame subsequent to the change, the first frame when generated in connection with a configuration workflow initiated before the change comprising data reflecting the configuration model before the change, the first frame when generated in connection with a configuration workflow initiated after the change comprising data reflecting the configuration model after the change.

4. The system of Claim 1, wherein the first and second frames belong to a frameset associated with the web page and are communicated to the client system in response to the user initiating the configuration workflow

5. The system of Claim 1, wherein the configuration model is a product configuration model, the configuration workflow is workflow to configure a product, and the configuration choice is associated with one or more available selections for configuring a corresponding portion of the product.

6. The system of Claim 1, wherein the GUI element for the configuration choice is associated with a dynamic Hypertext Markup Language (DHTML) layer and comprises one of a label, a radio button, a drop-down list box, and a check box.

7. The system of Claim 1, wherein the first and second frames comprise JavaServer Pages (JSPs), the called function of the first frame comprises a JavaScript function, and the calling code of the second frame comprises JavaScript code.

8. The system of Claim 1, wherein:
the first frame comprises a non-viewable configuration application program interface (API) frame; and
the second frame comprises one of a plurality of viewable configuration dialog frames associated with the web page.

9.   The system of Claim 1, wherein the second frame is operable to cause a connector to be created for the GUI element for the configuration choice in response to generation of the GUI element, the connector providing an active link between the GUI element and a property of a configuration element associated with the configuration choice, the connector allowing the GUI element to be automatically re-drawn in response to user input during the configuration workflow affecting the property of the configuration element without requiring the second frame to be re-drawn in its entirety at the client system.

10.   The system of Claim 9, wherein:

the first frame comprises a plurality of functions each operable when executed at the client system in response to a call to create a connector for a corresponding type of GUI element; and

the second frame comprises code associated with the GUI element for the configuration choice, the code being generated automatically at runtime at the client system in response to generation of the GUI element and operable to automatically call the function in the first frame corresponding to the type of the GUI element to create a connector for the GUI element.

11.   The system of Claim 1, further comprising a third frame associated with the web page and generated at the server system for communication to the client system in association with the first and second frames, when executed at the client system the third frame operable to:

receive from the second frame data representing a selection associated with the configuration choice;

post the data received from the second frame as a Hypertext Transfer Protocol (HTTP) request to the server system;

receive an HTTP response from the server system comprising data reflecting a current state of a configuration in relation to the configuration model, the current state reflecting the selection; and

communicate the data received from the server system to the second frame to initiate updating of the GUI element for the configuration choice.

12.   The system of Claim 1, wherein the system consists of the web page comprising the first and second frames.

13. A method for automatically generating a graphical user interface (GUI) element at a client system according to a current configuration model, comprising:

generating a first frame associated with a web page and generated at a server system for communication to a client system in connection with a configuration

5   workflow, when generated the first frame comprising data reflecting the current configuration model, when generated the first frame further comprising a function operable when executed at the client system in response to a call to automatically:

access the data stored in the first frame reflecting the current configuration model;

10   according to the accessed data, determine a configuration choice for which an appropriate GUI element needs to be drawn for display to a user associated with the client system in connection with the configuration workflow; and

make a callback requesting that an appropriate GUI element for the configuration choice be drawn; and

15   generating a second frame associated with the web page and generated at the server system for communication to the client system in association with the first frame, when generated the second frame comprising one or more parameters specifying the GUI element that will be appropriate for the configuration choice depending on the current configuration model as reflected in the data stored in the

20   first frame, when generated the second frame further comprising code operable when executed at the client system to automatically:

call the function of the first frame to determine a configuration choice for which an appropriate GUI element needs to be displayed to the user associated with the client system in connection with the configuration workflow;

25   receive a callback from the function of the first frame requesting that an appropriate GUI element for the configuration choice be drawn; and

according to the one or more parameters stored in the second frame, draw the GUI element that is appropriate for the configuration choice.

30   14. The method of Claim 13, wherein the GUI element appropriate for the configuration choice is generated on the fly at the client system.

15.   The method of Claim 13, further comprising reflecting a change to the configuration model independent of manual modification of the first frame subsequent to the change, the first frame when generated in connection with a configuration workflow initiated before the change comprising data reflecting the configuration model before the change, the first frame when generated in connection with a configuration workflow initiated after the change comprising data reflecting the configuration model after the change.

16.   The method of Claim 13, wherein the first and second frames belong to a frameset associated with the web page and are communicated to the client system in response to the user initiating the configuration workflow.

17.   The method of Claim 13, wherein the configuration model is a product configuration model, the configuration workflow is workflow to configure a product, and the configuration choice is associated with one or more available selections for configuring a portion of the product.

18.   The method of Claim 13, wherein the GUI element for the configuration choice is associated with a dynamic Hypertext Markup Language (DHTML) layer and comprises one of a label, a radio button, a drop-down list box, and a check box.

19.   The method of Claim 13, wherein the first and second frames comprise JavaServer Pages (JSPs), the called function of the first frame comprises a JavaScript function, and the calling code of the second frame comprises JavaScript code.

20.   The method of Claim 13, wherein:

the first frame comprises a non-viewable configuration application program interface (API) frame; and

the second frame comprises one of a plurality of viewable configuration dialog frames associated with the web page.

21.   The method of Claim 13, wherein the second frame is operable to cause a connector to be created for the GUI element for the configuration choice in response to generation of the GUI element, the connector providing an active link between the GUI element and a property of a configuration element associated with

5   the configuration choice, the connector allowing the GUI element to be automatically re-drawn in response to user input during the configuration workflow affecting the property of the configuration element without requiring the second frame to be re-drawn in its entirety at the client system.

10   22.   The method of Claim 21, wherein:

the first frame comprises a plurality of functions each operable when executed at the client system in response to a call to create a connector for a corresponding type of GUI element; and

the second frame comprises code associated with the GUI element for the

15   configuration choice, the code being generated automatically at runtime at the client system in response to generation of the GUI element and operable to automatically call the function in the first frame corresponding to the type of the GUI element to create a connector for the GUI element.

20   23.   The method of Claim 13, further comprising generating a third frame associated with the web page at the server system for communication to the client system in association with the first and second frames, when executed at the client system the third frame operable to:

receive from the second frame data representing a selection associated with

25   the configuration choice;

post the data received from the second frame as a Hypertext Transfer Protocol (HTTP) request to the server system;

receive an HTTP response from the server system comprising data reflecting a current state of a configuration in relation to the configuration model, the current state

30   reflecting the selection; and

communicate the data received from the server system to the second frame to initiate updating of the GUI element for the configuration choice.

24.   Software for automatically generating a graphical user interface (GUI) element at a client system according to a current configuration model, the software being embodied in computer-readable media and when executed operable to:

generate a first frame associated with a web page and generated at a server

5   system for communication to a client system in connection with a configuration workflow, when generated the first frame comprising data reflecting the current configuration model, when generated the first frame further comprising a function operable when executed at the client system in response to a call to automatically:

access the data stored in the first frame reflecting the current

10   configuration model;

according to the accessed data, determine a configuration choice for which an appropriate GUI element needs to be drawn for display to a user associated with the client system in connection with the configuration workflow; and

make a callback requesting that an appropriate GUI element for the

15   configuration choice be drawn; and

generate a second frame associated with the web page and generated at the server system for communication to the client system in association with the first frame, when generated the second frame comprising one or more parameters specifying the GUI element that will be appropriate for the configuration choice

20   depending on the current configuration model as reflected in the data stored in the first frame, when generated the second frame further comprising code operable when executed at the client system to automatically:

call the function of the first frame to determine a configuration choice for which an appropriate GUI element needs to be displayed to the user associated

25   with the client system in connection with the configuration workflow;

receive a callback from the function of the first frame requesting that an appropriate GUI element for the configuration choice be drawn; and

according to the one or more parameters stored in the second frame, draw the GUI element that is appropriate for the configuration choice.

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25.   The software of Claim 24, wherein the GUI element appropriate for the configuration choice is generated on the fly at the client system.

26.   The software of Claim 24, further operable to reflect a change to the configuration model independent of manual modification of the first frame subsequent to the change, the first frame when generated in connection with a configuration workflow initiated before the change comprising data reflecting the configuration model before the change, the first frame when generated in connection with a configuration workflow initiated after the change comprising data reflecting the configuration model after the change.

27.   The software of Claim 24, wherein the first and second frames belong to a frameset associated with the web page and are communicated to the client system in response to the user initiating the configuration workflow.

28.   The software of Claim 24, wherein the configuration model is a product configuration model, the configuration workflow is workflow to configure a product, and the configuration choice is associated with one or more available selections for configuring a portion of the product.

29.   The software of Claim 24, wherein the GUI element for the configuration choice is associated with a dynamic Hypertext Markup Language (DHTML) layer and comprises one of a label, a radio button, a drop-down list box, and a check box.

30.   The software of Claim 24, wherein the first and second frames comprise JavaServer Pages (JSPs), the called function of the first frame comprises a JavaScript function, and the calling code of the second frame comprises JavaScript code.

31.   The software of Claim 24, wherein:

the first frame comprises a non-viewable configuration application program interface (API) frame; and

the second frame comprises one of a plurality of viewable configuration dialog frames associated with the web page.

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32.   The software of Claim 24, wherein the second frame is operable to cause a connector to be created for the GUI element for the configuration choice in response to generation of the GUI element, the connector providing an active link between the GUI element and a property of a configuration element associated with the configuration choice, the connector allowing the GUI element to be automatically re-drawn in response to user input during the configuration workflow affecting the property of the configuration element without requiring the second frame to be re-drawn in its entirety at the client system.

33.   The software of Claim 32, wherein:

the first frame comprises a plurality of functions each operable when executed at the client system in response to a call to create a connector for a corresponding type of GUI element; and

the second frame comprises code associated with the GUI element for the configuration choice, the code being generated automatically at runtime at the client system in response to generation of the GUI element and operable to automatically call the function in the first frame corresponding to the type of the GUI element to create a connector for the GUI element.

34.   The software of Claim 24, further operable to generate a third frame associated with the web page at the server system for communication to the client system in association with the first and second frames, when executed at the client system the third frame operable to:

5   receive from the second frame data representing a selection associated with the configuration choice;

post the data received from the second frame as a Hypertext Transfer Protocol (HTTP) request to the server system;

receive an HTTP response from the server system comprising data reflecting a

10   current state of a configuration in relation to the configuration model, the current state reflecting the selection; and

communicate the data received from the server system to the second frame to initiate updating of the GUI element for the configuration choice.

15   35.   The software of Claim 24, wherein the software consists of the web page comprising the first and second frames.

36.   A system for automatically generating a graphical user interface (GUI) element at a client system according to a current configuration model, comprising:

means for generating a first frame associated with a web page and generated at a server system for communication to a client system in connection with a configuration workflow, when generated the first frame comprising data reflecting the current configuration model, when generated the first frame further comprising a function operable when executed at the client system in response to a call to automatically:

access the data stored in the first frame reflecting the current configuration model;

according to the accessed data, determine a configuration choice for which an appropriate GUI element needs to be drawn for display to a user associated with the client system in connection with the configuration workflow; and

make a callback requesting that an appropriate GUI element for the configuration choice be drawn; and

means for generating a second frame associated with the web page and generated at the server system for communication to the client system in association with the first frame, when generated the second frame comprising one or more parameters specifying the GUI element that will be appropriate for the configuration choice depending on the current configuration model as reflected in the data stored in the first frame, when generated the second frame further comprising code operable when executed at the client system to automatically:

call the function of the first frame to determine a configuration choice for which an appropriate GUI element needs to be displayed to the user associated with the client system in connection with the configuration workflow;

receive a callback from the function of the first frame requesting that an appropriate GUI element for the configuration choice be drawn; and

according to the one or more parameters stored in the second frame, draw the GUI element that is appropriate for the configuration choice.

37.   A system for automatically generating a graphical user interface (GUI) element at a client system according to a current product configuration model for a configurable product, comprising:

a first JavaServer Page (JSP) associated with a web page and generated at a server system for communication to a client system in connection with a product configuration workflow to configure the product, when generated at the server system the first JSP comprising data reflecting the current product configuration model, when generated at the server system the first JSP further comprising a JavaScript function operable when executed at the client system in response to a call to automatically:

access the data stored in the first JSP reflecting the current product configuration model;

according to the accessed data in the first JSP, determine configuration choices for which appropriate GUI elements need to be drawn for display to a user associated with the client system in connection with the product configuration workflow, each configuration choice being associated with one or more available selections for configuring a corresponding portion of the product; and

make a callback requesting that an appropriate GUI element for each configuration choice be drawn; and

a second JSP associated with the web page and generated at the server system for communication to the client system in association with the first JSP, when generated at the server system the second JSP comprising parameters specifying GUI elements that will be appropriate for configuration choices in general depending on the current product configuration model as reflected in the data stored in the first JSP, when generated at the server system the second JSP further comprising JavaScript code operable when executed at the client system to automatically:

call the JavaScript function of the first JSP to determine the configuration choices for which appropriate GUI elements need to be displayed to the user associated with the client system in connection with the product configuration workflow;

receive a callback from the JavaScript function of the first JSP requesting that appropriate GUI elements for the configuration choices be drawn; and

according to the parameters stored in the second JSP, draw the GUI elements that are appropriate for the configuration choices, the GUI elements for the configuration choice thereby being generated automatically on the fly at the client system.

38.   A system for automatically generating a graphical user interface (GUI) element at a client system according to a current configuration model, comprising one or more software components generated at a server system for communication to a client system in connection with a configuration workflow:

5   when loaded at the client system, the one or more software components comprising data reflecting the current configuration model;

when loaded at the client system, the one or more software components comprising one or more parameters specifying the GUI element that will be appropriate for a configuration choice depending on the current configuration model

10   as reflected in the data; and

when executed at the client system, the one or more software components being operable to automatically:

determine, according to the data reflecting the current configuration model, a configuration choice for which an appropriate GUI element needs to be

15   drawn for display to a user associated with the client system in connection with the configuration workflow; and

draw, according to the one or more parameters, the GUI element that is appropriate for the determined configuration choice.